Carney, Jonathan W <jonathan.w.carney@wv.gov>

RE: GlyEco Application questions

1 message

Jennie Henthorn <jennie@henvtl.com> Tue, May 17, 2022 at 2:39 PM
To: "Carney, Jonathan W" <jonathan.w.carney@wv.gov>

Responses below.

Jennie Henthorn

304-727-1445 Office

304-545-6274 Cell

From: Carney, Jonathan W <jonathan.w.carney@wv.gov>
Sent: Friday, May 13, 2022 8:37 AM
To: Jennie Henthorn <jennie@henvtl.com>
Subject: Re: GlyEco Application questions

Hello Jennie,

I have a few more questions. I think this is all of them.

Why were there big increases in PTE's for CO, NOx, PM2.5, PM10, TSP, and SO2? Previously they had <0.01 TPY.

This is a carryover from the past permit application, which was issued to UCC and included other emissions sources. I had my summer intern copy the 2018 UCC application as the basis for the 2021 application, and I did not catch this issue. Here's where it was copied from in the UCC application:

Group 1 of 5 (UCC Institute Facility: Glycol Recovery Plant)
Section 3: Facility-Wide Emissions

23. Catalyst/Glycol Recovery Plants Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	1.7
Nitrogen Oxides (NO_X)	38
Lead (Pb)	N/A
Particulate Matter ($PM_{2.5}$)[1]	6.3
Particulate Matter (PM_{10})[1]	6.3
Total Particulate Matter (TSP)	6.3
Sulfur Dioxide (SO_2)	1.2
Volatile Organic Compounds (VOC)	59
Hazardous Air Pollutants[2]	Potential Emissions
Acetaldehyde	0.1

Why were methanol and diethyl ether not included in the PTE even though the Rule 13 permit has limits for them?

Glyeco processed the remaining methanol-contaminated water that UCC had left on the site and had no intention of processing any more methanol materials at the facility. It is my understanding that the diethyl ether was associated with the methanol processing, but I can't attest to that for certain.

Also, 1BL LB1 Barge Loading operated by Logistics Group is part of Altivia's Logistic (3A of 8) Title V permit. Please explain why it is listed in the Emission Units table.

Again, this is a carryover from the 2018 application. A couple of the ASTs in the barge loading area were held by Glyeco, but were transferred to Altivia in October 2019. It was an oversight and should have been removed. As I mentioned, this application was prepared quickly to try to preserve the permit for the facility in case it could be operated by another party in the future.

Any explanations you can provide concerning these issues will be appreciated.

Sincerely,

Jonathan Carney

On Thu, May 12, 2022 at 2:45 PM Jennie Henthorn <jennie@henvtl.com> wrote:

> Jonathan,
>
> At the time the application was submitted, the ASTs were listed under HON to provide maximum flexibility to the potential purchaser. I am not sure whether that was a good idea or a bad idea; I did what was asked. The tanks were not operated as HON tanks by GlyEco. Really, the goal would have been to remove the HON requirements from the permit, as the remaining HON material was processed by GlyEco prior to closure (leftovers from the prior owner).

I have attached a list of the ASTs transferred to GlyEco by UCC; I can't recall whether it contains the ASTs that were transferred by GlyEco to Altivia prior to closure. Some ASTs never operated by GlyEco and still contained the materials left in them by UCC.

Jennie Henthorn

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304-545-6274 Cell

From: Carney, Jonathan W <jonathan.w.carney@wv.gov>
Sent: Thursday, May 12, 2022 2:25 PM
To: Jennie Henthorn <jennie@henvtl.com>
Subject: GlyEco Application questions

Hello Jennie,

Why are Tanks T1407, T1409, T1410, T1412, and T1416 being added to the renewal? When removed from Union Carbide Corporation's permit R30-03900005-2012 (3 of 8) (AA01), T1407, 1409, T1410, and T1412 it was because it was claimed there were no applicable requirements and that the tanks were going to be transferred. What changed in the operation/use of these tanks that makes these tanks HON Group 2 tanks? When were they transferred to GlyEco?

Tank T1416 was deleted from the Title V permit under R30-03900005-2017 (1A of 8). Why is it listed in this application? How is it subject to the requirements Section 4.1.5 and 4.4.3?

Sincerely,

Jonathan Carney

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Jonathan Carney, P.E.

Environmental Protection

NSR/Title V Air Permitting

(304) 926-0499 ext 41247

Jonathan.W.Carney@wv.gov

601 57th St SE

Charleston, WV 25304

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Charleston, WV 25304

AST-Contents-Record.xlsx
50K

GLYECO WEST VIRGINIA, INC. AST TANK CONTENTS RECORD

	Owner ID	Ref Doc	Property Number	Tank Label	Capacity (G)	12/2018 Substance(s) Stored	12/2019 Substance(s) Stored	1/30/2020 Current Substance(s) Stored	12/31/2020 Current Substance(s) Stored	Insp. Cert.	Confidential	County	Latitude	Longitude	Status	Year	Reg.	Level	ZCC	SWPA	ZPC	List of Lists?
1	1005 FINISHED EG	**2017-0000290**	**SOLD** **10/29/2020**	020-00000965	1,450,000	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.379024	81.779891	C	1976		1				Yes
2	1010 FINISHED EG	**2017-0000290**	**SOLD** **10/29/2020**	020-00000833	1,450,000	Ethylene glycol Diethylene glycol	NO CHANGE (EMPTY SINCE 12/2016) Ethylene & Diethylene glycol	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.379931	81.782014	C	1976		1				Yes
3	1201	**2017-0000290**		020-00000995	20,000	Ethylene glycol Activated carbon	Activated carbon TANK IS OPEN	Ethylene glycol Activated carbon	Ethylene glycol Activated carbon	Fit	No	Kanawha	38.382944	81.784906	C	1993		1				Yes
4	1202	**2017-0000290**		020-00000983	20,000	Ethylene glycol Activated carbon	Activated carbon TANK IS OPEN	Ethylene glycol Activated carbon	Ethylene glycol Activated carbon	Fit	No	Kanawha	38.38297	81.784952	C	1993		1				Yes
5	1401 METHANOL H20 REMOVED FROM METHANOL	**2017-0000290**		020-00000867	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382529	81.784547	C	1948		1				Yes
6	1402 METHANOL H20 REMOVED FROM METHANOL	**2017-0000290**		020-00000917	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382479	81.784581	C	1948		1				Yes
7	1403 METHANOL H20 REMOVED FROM METHANOL SERVICE	**2017-0000290**		020-00000872	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382555	81.784609	C	1948		1				Yes
8	1404 METHANOL H20 REMOVED FROM METHANOL	**2017-0000290**		020-00000851	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382504	81.784643	C	1948		1				Yes
9	1405 WATER - H20 DE-REGULATED 12/28/2020	**2017-0000290**		020-00000832	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water (triple rinsed and empty 1/17/2020	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water De-retulated no longer RCRA as of 12/28/2020	Fit	No	Kanawha	38.382587	81.784672	C	1948		1				Yes
10	1406 WATER - H20 DE-REGULATED 12/28/2020	**2017-0000290**		020-00000989	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water (triple rinsed and empty 1/23/2020	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water De-retulated no longer RCRA as of 12/28/2020	Fit	No	Kanawha	38.38253	81.784714	C	1948		1				Yes
11	1407 EG/AF	**2017-0000290**		020-00000863	10,000	Ethylene glycol Water	NO CHANGE	Antifreeze Blend Tank Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium borate 8-mole 12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	Antifreeze Blend Tank Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium borate 8-mole 12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	Fit	No	Kanawha	38.382613	81.784737	C	1977		1				Yes
12	1408 METHANOL H20 REMOVED FROM METHANOL SERVICE	**2017-0000290**		020-00000875	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.38255	81.784717	C	1948		1				Yes
13	1409 EG/AF	**2017-0000290**		020-00001015	10,000	Ethylene glycol Water	NO CHANGE	Ethylene Glycol storage tank for AF blends Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium tetraborate pentahydrate12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	Ethylene Glycol storage tank for AF blends Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium tetraborate pentahydrate12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	Fit	No	Kanawha	38.382638	81.784789	C	1977		1				Yes
14	1410 WATER	**2017-0000290**		020-00000933	10,000	Ethylene glycol Water	NO CHANGE	RO water for AF blends Water 7732-18-5	RO water for AF blends Water 7732-18-5	Fit	No	Kanawha	38.382596	81.784826	C	1977		1				Yes
15	1411	**2017-0000290**		020-00000855	10,000	Ethylene glycol Diethylene glycol	NO CHANGE	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.382676	81.784843	C	1953		1				Yes
16	1412 EG/AF	**2017-0000290**		020-00000866	10,000	Ethylene glycol Water Water	NO CHANGE	AF Blend storage tank Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium tetraborate pentahydrate12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	AF Blend storage tank Ethylene Gllycol Water 7732-18-5 Sodium Nitrite 7632-00-0 Sodium Benzoate 532-32-1 Monoethanolamine 141-43-5 Sodium tetraborate pentahydrate12179-04-3 Sodium Mercaptobenzothiazole 2492-26-4 Sodium Tolytriazole 64665-57-2	Fit	No	Kanawha	38.382621	81.784889	C	1977		1				Yes
17	1413 FINISHED EG	**2017-0000290**		020-00000817	10,000	Ethylene glycol Diethylene glycol	NO CHANGE	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.382701	81.784915	C	1942		1				Yes
18	1414 FINISHED EG	**2017-0000290**		020-00000930	10,000	Ethylene glycol Diethylene glycol	NO CHANGE	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.38265	81.784953	C	1942		1				Yes

19	1415 TAILS H2O	**2017-0000290**		020-00000842	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Ethylene glycol Diethylene glycol 1,4-Dioxane Water	Ethylene glycol Diethylene glycol 1,4-Dioxane Water HUNTSMAN WATER	Ethylene glycol Diethylene glycol 1,4-Dioxane Water HUNTSMAN WATER	Fit	No	Kanawha	38.382723	81.78497	C	1951		1					Yes
20	1416 FINISHED EG	**2017-0000290**		020-00000893	10,000	Ethylene glycol Diethylene glycol	NO CHANGE	Ethylene glycol Diethylene glycol	Ethylene glycol Diethylene glycol	Fit	No	Kanawha	38.382677	81.785015	C	1977		1					Yes
21	1418 TAILS	**2017-0000290**		020-00000935	10,000	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Terephthalic acid Water	NO CHANGE	Bottoms make tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Bottoms make tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.383029	81.784849	C	1966		1					Yes
24	1423 FEED TO COLUMN	**2017-0000290**		020-00000818	10,000	2-Hydroxyethyl terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Methanol 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester	NO CHANGE	Ethylene glycol Diethylene glycol Water	Ethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.382749	81.785038	C	1942		1					Yes
25	1424 TAILS	**2017-0000290**		020-00000889	10,000	2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Water	NO CHANGE	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.382696	81.785078	C	1947		1					Yes
26	1426 TAILS	**2017-0000290**		020-00000879	10,000	2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Tetraethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Water	NO CHANGE	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.382722	81.785123	C	1944		1					Yes
27	1427 TAILS	**2017-0000290**		020-00000963	10,000	2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Water	NO CHANGE	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Same Bottoms storage tank 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.382805	81.785147	C	1960		1					Yes
28	1491	**2017-0000290**		020-00000979	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water (triple rinsed and empty 1/17/2020	Ethylene glycol 107-21-1 Diethylene glycol 111-46-6 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Water	Ethylene glycol 107-21-1 Diethylene glycol 111-46-6 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Water	Fit	No	Kanawha	38.382456	81.784686	C	1966		1					Yes
29	1492	**2017-0000290**		020-00000830	30,000	Methanol Water	Water (triple rinsed and empty 1/17/2020	Methanol Water	Methanol Water	Fit	No	Kanawha	38.382485	81.784745	C	1964		1					Yes

30	1493	**2017-0000290**		020-00001008	30,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Water (triple rinsed and empty 1/17/2020	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382509	81.784814	C	1964		1				Yes
31	1494	**2017-0000290**		020-00000926	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382535	81.784865	C	1956		1				Yes
32	1495	**2017-0000290**		020-00001003	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382565	81.784923	C	1956		1				Yes
33	1496 RESIDUE	**2017-0000290**		020-00000909	10,000	2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Terephthalic acid Water	NO CHANGE	1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Tetraethylene glycol Ethylene glycol Triethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.383105	81.784793	C	1955		1				Yes
34	1497	**2017-0000290**		020-00000887	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382616	81.785049	C	1955		1				Yes
35	1498	**2017-0000290**		020-00000839	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382649	81.785107	C	1956		1				Yes
36	1499	**2017-0000290**		020-00000942	10,000	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	2-Methyl-1,3-dioxacyclopentane Methyl acetate Methanol 1,3-Dioxolane 1,4-Dioxane Water	Fit	No	Kanawha	38.382657	81.785168	C	1956		1				Yes
37	1601 TAILS	**2017-0000290**		020-00001013	2,400,000	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Water	NO CHANGE	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Water	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Water	Fit	No	Kanawha	38.38448	81.785728	C	1943		1				Yes
38	1602 TAILS	**2017-0000290**		020-00001007	2,400,000	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Methanol Water	NO CHANGE	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Methanol Water	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Methanol Water	Fit	No	Kanawha	38.385007	81.785514	C	1943		1				Yes
39	1615 FEED-STOCK	**2017-0000290**		020-00000996	500,000	2-Hydroxyethyl Terephthalate Ethylene glycol Diethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- Water	NO CHANGE	Was BASF feedstock now has Huntsman Ethylene glycol Diethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- Water 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0	Was BASF feedstock now has Huntsman Ethylene glycol Diethylene glycol Terephthalic acid 1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-hydroxy- Water 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0	Fit	No	Kanawha	38.38386	81.785664	C	1959		1				Yes
40	1616 3M SLUDGE 1,4 DIOXANE WATER	**2017-0000290**		020-00000959	500,000	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Methanol Water	NO CHANGE	Ethylene glycol Diethylene glycol 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Water	Ethylene glycol Diethylene glycol 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Water	Fit	No	Kanawha	38.383926	81.785952	C	1960		1				Yes
22	1617	**2017-0000290**		020-00000845	500,000	2-Hydroxyethanesulfonic acid, sodium salt Sodium acetate Sodium formate Sodium nitrite Ethylene Glycol Triethylene glycol Diethylene glycol Water	NO CHANGE	Was PGU tank we used it last as pretreated APG feed tank Sodium acetate Sodium formate Ethylene Glycol Triethylene glycol Diethylene glycol 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0	Was PGU tank we used it last as pretreated APG feed tank Sodium acetate Sodium formate Ethylene Glycol Triethylene glycol Diethylene glycol 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0	Fit	No	Kanawha	38.384015	81.786281	C	1963		1				Yes

								Water	Water															
23	1618 TAILS	**2017-0000290**		020-00000820	280,000	1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl acetate 2-Hydroxyethyl terephthalate Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Polyethylene glycol Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Ethylene glycol Triethylene glycol Diethylene glycol Tetraethylene glycol	NO CHANGE	Was Regular Spent (Plaquemine and M&G) spent tank it had dowtherm contaminated APG in it last 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Polyethylene glycol Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Ethylene glycol Triethylene glycol Diethylene glycol Tetraethylene glycol	Was Regular Spent (Plaquemine and M&G) spent tank it had dowtherm contaminated APG in it last 1,4 dioxaine 000123-91-1 1,3-Dioxolane 000646-06-0 Calcium Phosphate Diantimony trioxide Monoesters of Terephtalic acid and glycols and their sodium salts and related oligmers Monohydroxyethyl Terephthalate, Sodium salt Polyethylene glycol Potassium Phosphate Sodium Phosphate Terephthalic acid, disodium salt Ethylene glycol Triethylene glycol Diethylene glycol Tetraethylene glycol	Fit	No	Kanawha	38.384052	81.785503	C	1959		1				Yes
41	1619 CLEAN FEED TANK	**2017-0000290**		020-00001010	280,000	1,4-Benzenedicarboxylic acid, 1,4-bis(2-hydroxyethyl) ester 2-Hydroxyethyl Terephthalate Polyethylene glycol Ethylene glycol Diethylene glycol Terephthalic acid Water	Ethylene glycol Diethylene glycol Water	Ethylene glycol Diethylene glycol Water	Ethylene glycol Diethylene glycol Water	Fit	No	Kanawha	38.384103	81.785712	C	1959		1				Yes

TANKS NOT REQUIRING REGISTRATION

42	1417 CONDENSATE TANK	**2017-0000290**		020-00000870	10,000	STEAM CONDENSATE		STEAM CONDENSATE	STEAM CONDENSATE							1942								
43	1425					NO LONGER EXITST																		
44	1428			NOT REGISTERED	1,000	Ethylene glycol		Ethylene glycol	Ethylene glycol							1959								
45	1429					NO LONGER EXISTS																		
46	FC OH MAKE POT																							
47	RS OVERHEAD POT																							

Carney, Jonathan W <jonathan.w.carney@wv.gov>

Completeness Determination, GlyEco West Virginia, Inc., Application No.: R30-03900675-2021

1 message

Carney, Jonathan W <jonathan.w.carney@wv.gov> Thu, Sep 23, 2021 at 11:20 AM
To: rsgeib@glyecowv.com, jennie@henvtl.com
Cc: Carrie McCumbers <carrie.mccumbers@wv.gov>

Mr. Geib,

Your Title V renewal application for a permit to operate the above referenced facility was received by this Division on July 21, 2021. After review of said application, it has been determined that the application is administratively complete as submitted. Therefore, the above referenced facility qualifies for an Application Shield.

The applicant has the duty to supplement or correct the application. Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrected information. In addition, an applicant shall provide additional information as necessary to address any requirements that become applicable to the source after the date it filed a complete application but prior to release of a draft permit.

The submittal of a complete application shall not affect the requirement that any source have all **preconstruction permits** required under the rules of the Division.

If during the processing of this application it is determined that additional information is necessary to evaluate or take final action on this application, a request for such information will be made in writing with a reasonable deadline for a response. Until which time as your renewal permit is issued or denied, please continue to operate this facility in accordance with 45CSR30, section 6.3.c. which states: *If the Secretary fails to take final action to deny or approve a timely and complete permit application before the end of the term of the previous permit, the permit shall not expire until the renewal permit has been issued or denied, and any permit shield granted for the permit shall continue in effect during that time.* This protection shall cease to apply if, subsequent to the completeness determination made pursuant to paragraph 6.1.d. of 45CSR30 and as required by paragraph 4.1.b., the applicant fails to submit by the deadline specified in writing any additional information identified as being needed to process the application.

Please remember, **failure of the applicant to timely submit information required or requested to process the application may cause the Application Shield to be revoked.** Should you have any questions regarding this determination, please call me at (304)926-0499 ext. 41247.

Sincerely,

Jonathan Carney

image001.jpg
10K

Received
July 21, 2021
WV DEP/Div of Air Quality

GlyEco West Virginia, Inc.

Institute, West Virginia

Plant ID No. 03-54-039-00675

Renewal Application for

Title V Permit

July 2021

Table of Contents

WEST VIRGINIA DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF AIR QUALITY
601 57th Street SE
Charleston, WV 25304
Phone: (304) 926-0475
www.dep.wv.gov/daq

Received
July 21, 2021
WV DEP/Div of Air Quality

INITIAL/RENEWAL TITLE V PERMIT APPLICATION - GENERAL FORMS

Section 1: General Information

1. **Name of Applicant (As registered with the WV Secretary of State's Office):** GlyEco West Virginia, Inc.	**2. Facility Name or Location:** Institute Plant
3. DAQ Plant ID No.: 039-00675	**4. Federal Employer ID No. (FEIN):** 32-0463133

5. **Permit Application Type:**

☐ Initial Permit — When did operations commence?
☑ Permit Renewal — What is the expiration date of the existing permit?
☐ Update to Initial/Renewal Permit Application

6. Type of Business Entity:

☑ Corporation ☐ Governmental Agency ☐ LLC
☐ Partnership ☐ Limited Partnership

7. Is the Applicant the:

☐ Owner ☐ Operator ☑ Both

If the Applicant is not both the owner and operator, please provide the name and address of the other party.

8. Number of onsite employees:

N/A

9. Governmental Code:

☑ Privately owned and operated; 0
☐ Federally owned and operated; 1
☐ State government owned and operated; 2
☐ County government owned and operated; 3
☐ Municipality government owned and operated; 4
☐ District government owned and operated; 5

10. Business Confidentiality Claims

Does this application include confidential information (per 45CSR31)? ☑ Yes ☐ No

If yes, identify each segment of information on each page that is submitted as confidential, and provide justification for each segment claimed confidential, including the criteria under 45CSR§31-4.1, and in accordance with the DAQ's *"PRECAUTIONARY NOTICE-CLAIMS OF CONFIDENTIALITY"* guidance.

11. Mailing Address		
Street or P.O. Box: P. O. Box 387		
City: Institute	**State:** WV	**Zip:** 25112 -
Telephone Number: (681) 265-2314	**Fax Number:** ( ) N/A	

12. Facility Location		
Street: 1620 1st Ave S.	**City:** Nitro	**County:** Kanawha
UTM Easting: 432.189 km	**UTM Northing:** 4,248.754 km	**Zone:** ☑ 17 or ☐ 18
Directions: From I-64 take Exit 50 (Institute), stay right and turn right on to Route 25. First signal turn left into Altivia Institute Plant site. GlyEco facility is Building 180 on the plant site.		
Portable Source? ☐ Yes ☑ No		
Is facility located within a nonattainment area? ☐ Yes ☑ No		**If yes, for what air pollutants?**
Is facility located within 50 miles of another state? ☐ Yes ☑ No		**If yes, name the affected state(s).**
Is facility located within 100 km of a Class I Area[1]? ☐ Yes ☑ No **If no, do emissions impact a Class I Area[1]?** ☐ Yes ☑ No		**If yes, name the area(s).**

[1] *Class I areas include Dolly Sods and Otter Creek Wilderness Areas in West Virginia, and Shenandoah National Park and James River Face Wilderness Area in Virginia.*

13. Contact Information		
Responsible Official: Richard Geib		**Title:** President and CEO
Street or P.O. Box: P.O. Box 387		
City: Institute	**State:** WV	**Zip:** 25112 -
Telephone Number: (681) 265-2247	**Fax Number:** N/A	
E-mail address: rsgeib@glyecowv.com		
Environmental Contact:		**Title:**
Street or P.O. Box:		
City:	**State:**	**Zip:** -
Telephone Number:( )	**Fax Number:**( )	
E-mail address:		
Application Preparer: Jennie Henthorn		**Title:** Owner
Company: Henthorn Environmental Services LLC		
Street or P.O. Box: Post Office Box 599		
City: St. Albans	**State:** WV	**Zip:** 25177
Telephone Number: (304) 727 - 1445	**Fax Number:** (N/A) -	
E-mail address: jennie@henvtl.com		

14. Facility Description

List all processes, products, NAICS and SIC codes for normal operation, in order of priority. Also list any process, products, NAICS and SIC codes associated with any alternative operating scenarios if different from those listed for normal operation.

Process	Products	NAICS	SIC
Glycol Recovery Plant	Ethylene glycol and propylene glycol	325199	2869

Provide a general description of operations.

GLYCOL RECOVERY PLANT PROCESS DESCRIPTION:
Byproducts ethylene glycol and propylene glycol are stored on site and brought into the Glycol Recovery Plant for processing. Water and other light boilers, including methanol, are separated for reprocessing or sent to wastewater treatment unit. The remaining streams containing ethylene glycol/propylene glycol are refined into the final products. Refined ethylene glycol/propylene glycol streams are stored in unit tanks prior to shipment.

15. Provide an **Area Map** showing plant location as **ATTACHMENT A**.

16. Provide a **Plot Plan(s)**, e.g. scaled map(s) and/or sketch(es) showing the location of the property on which the stationary source(s) is located as **ATTACHMENT B**.

    For instructions, refer to "Plot Plan - Guidelines."

17. Provide a detailed **Process Flow Diagram(s)** showing each process or emissions unit as **ATTACHMENT C**. Process Flow Diagrams should show all emission units, control equipment, emission points, and their relationships.

Section 2: Applicable Requirements

18. Applicable Requirements Summary	
Instructions: Mark all applicable requirements.	
☑ SIP	☐ FIP
☑ Minor source NSR (45CSR13)	☐ PSD (45CSR14)
☑ NESHAP (45CSR34)	☐ Nonattainment NSR (45CSR19)
☑ Section 111 NSPS	☑ Section 112(d) MACT standards
☐ Section 112(g) Case-by-case MACT	☐ 112(r) RMP
☐ Section 112(i) Early reduction of HAP	☐ Consumer/commercial prod. reqts., section 183(e)
☐ Section 129 Standards/Reqts.	☐ Stratospheric ozone (Title VI)
☐ Tank vessel reqt., section 183(f)	☐ Emissions cap 45CSR§30-2.6.1
☐ NAAQS, increments or visibility (temp. sources)	☑ 45CSR27 State enforceable only rule
☑ 45CSR4 State enforceable only rule	☐ Acid Rain (Title IV, 45CSR33)
☐ Emissions Trading and Banking (45CSR28)	☐ **C**ompliance **A**ssurance **M**onitoring (40CFR64)
☐ CAIR NO_x Annual Trading Program (45CSR39)	☐ CAIR NO_x Ozone Season Trading Program (45CSR40)
☐ CAIR SO_2 Trading Program (45CSR41)	

19. Non Applicability Determinations
List all requirements which the source has determined not applicable and for which a permit shield is requested. The listing shall also include the rule citation and the reason why the shield applies.
☑ Permit Shield

20. Facility-Wide Applicable Requirements

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*).

Limitations and Standards

3.1.1. **Open burning.** The open burning of refuse by any person is prohibited except as noted in 45CSR§6-3.1.
[45CSR§6-3.1.]

3.1.2. **Open burning exemptions.** The exemptions listed in 45CSR§6-3.1 are subject to the following stipulation: Upon notification by the Secretary, no person shall cause or allow any form of open burning during existing or predicted periods of atmospheric stagnation. Notification shall be made by such means as the Secretary may deem necessary and feasible.
[45CSR§6-3.2.]

3.1.3. **Asbestos.** The permittee is responsible for thoroughly inspecting the facility, or part of the facility, prior to commencement of demolition or renovation for the presence of asbestos and complying with 40 C.F.R. § 61.145, 40 C.F.R. § 61.148, and 40 C.F.R. § 61.150. The permittee, owner, or operator must notify the Secretary at least ten (10) working days prior to the commencement of any asbestos removal on the forms prescribed by the Secretary if the permittee is subject to the notification requirements of 40 C.F.R. § 61.145(b)(3)(i). The USEPA, the Division of Waste Management and the Bureau for Public Health - Environmental Health require a copy of this notice to be sent to them.
[40 C.F.R. §61.145(b) and 45CSR15]

3.1.4. **Odor.** No person shall cause, suffer, allow or permit the discharge of air pollutants which cause or contribute to an objectionable odor at any location occupied by the public.
[45CSR§4-3.1 State-Enforceable only.]

3.1.5. **Standby plan for reducing emissions.** When requested by the Secretary, the permittee shall prepare standby plans for reducing the emissions of air pollutants in accordance with the objectives set forth in Tables I, II, and III of 45CSR11.
[45CSR§11-5.2]

3.1.6. Emission inventory. The permittee is responsible for submitting, on an annual basis, an emission inventory in accordance with the submittal requirements of the Division of Air Quality.
[W.Va. Code § 22-5-4(a)(14)]

3.1.7. Ozone-depleting substances. For those facilities performing maintenance, service, repair or disposal of appliances, the permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 C.F.R. Part 82, Subpart F, except as provided for Motor Vehicle Air Conditioners (MVACs) in Subpart B:

a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the prohibitions and required practices pursuant to 40 C.F.R. §§ 82.154 and 82.156.

b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 C.F.R. § 82.158.

c. Persons performing maintenance, service, repair, or disposal of appliances must be certified by an approved technician certification program pursuant to 40 C.F.R. § 82.161.
[40 C.F.R. 82, Subpart F]

☒ Permit Shield

20. Facility-Wide Applicable Requirements *(Continued)*

List all facility-wide applicable requirements. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (Note: Title V permit condition numbers alone are not the underlying applicable requirements).

3.1.8. **Risk Management Plan.** Should this stationary source, as defined in 40 C.F.R. § 68.3, become subject to Part 68, then the owner or operator shall submit a risk management plan (RMP) by the date specified in 40 C.F.R. § 68.10 and shall certify compliance with the requirements of Part 68 as part of the annual compliance certification as required by 40 C.F.R. Part 70 or 71.
[40 C.F.R. 68]

☒ Permit Shield

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

Monitoring Requirements

3.2.1. None.

Testing Requirements

3.3.1. **Stack testing.** As per provisions set forth in this permit or as otherwise required by the Secretary, in accordance with the West Virginia Code, underlying regulations, permits and orders, the permittee shall conduct test(s) to determine compliance with the emission limitations set forth in this permit and/or established or set forth in underlying documents. The Secretary, or his duly authorized representative, may at his option witness or conduct such test(s). Should the Secretary exercise his option to conduct such test(s), the operator shall provide all necessary sampling connections and sampling ports to be located in such manner as the Secretary may require, power for test equipment and the required safety equipment, such as scaffolding, railings and ladders, to comply with generally accepted good safety practices. Such tests shall be conducted in accordance with the methods and procedures set forth in this permit or as otherwise approved or specified by the Secretary in accordance with the following:

a. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with 40 C.F.R. Parts 60, 61, and 63, if applicable, in accordance with the Secretary's delegated authority and any established equivalency determination methods which are applicable.
b. The Secretary may on a source-specific basis approve or specify additional testing or alternative testing to the test methods specified in the permit for demonstrating compliance with applicable requirements which do not involve federal delegation. In specifying or approving such alternative testing to the test methods, the Secretary, to the extent possible, shall utilize the same equivalency criteria as would be used in approving such changes under Section 3.3.1.a. of this permit. …

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

c. All periodic tests to determine mass emission limits from or air pollutant concentrations in discharge stacks and such other tests as specified in this permit shall be conducted in accordance with an approved test protocol. Unless previously approved, such protocols shall be submitted to the Secretary in writing at least thirty (30) days prior to any testing and shall contain the information set forth by the Secretary. In addition, the permittee shall notify the Secretary at least fifteen (15) days prior to any testing so the Secretary may have the opportunity to observe such tests. This notification shall include the actual date and time during which the test will be conducted and, if appropriate, verification that the tests will fully conform to a referenced protocol previously approved by the Secretary.

d. The permittee shall submit a report of the results of the stack test within 60 days of completion of the test. The test report shall provide the information necessary to document the objectives of the test and to determine whether proper procedures were used to accomplish these objectives. The report shall include the following: the certification described in paragraph 3.5.1; a statement of compliance status, also signed by a responsible official; and, a summary of conditions which form the basis for the compliance status evaluation. The summary of conditions shall include the following:
   1. The permit or rule evaluated, with the citation number and language.
   2. The result of the test for each permit or rule condition.
   3. A statement of compliance or non-compliance with each permit or rule condition.

[WV Code § 22-5-4(a)(15) and 45CSR13]

Recordkeeping Requirements

3.4.1. **Monitoring information.** The permittee shall keep records of monitoring information that include the following:

a. The date, place as defined in this permit and time of sampling or measurements;
b. The date(s) analyses were performed;
c. The company or entity that performed the analyses;
d. The analytical techniques or methods used;
e. The results of the analyses; and
f. The operating conditions existing at the time of sampling or measurement.

[**45CSR§30-5.1.c.2.A.]**

3.4.2. Retention of records. The permittee shall retain records of all required monitoring data and support information for a period of at least five (5) years from the date of monitoring sample, measurement, report, application, or record creation date. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit. Where appropriate, records may be maintained in computerized form in lieu of the above records.
[**45CSR§30-5.1.c.2.B]**

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

3.4.3. **Odors.** For the purposes of 45CSR4, the permittee shall maintain a record of all odor complaints received, any investigation performed in response to such a complaint, and any responsive action(s) taken.
[45CSR§30-5.1.c. State-Enforceable only.]

Reporting Requirements

3.5.1. **Responsible official.** Any application form, report, or compliance certification required by this permit to be submitted to the DAQ and/or USEPA shall contain a certification by the responsible official that states that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate and complete.
[45CSR§§30-4.4. *and* 5.1.c.3.D.]

3.5.2. A permittee may request confidential treatment for the submission of reporting required under 45CSR§30-5.1.c.3. pursuant to the limitations and procedures of W.Va. Code § 22-5-10 and 45CSR31.
[45CSR§30-5.1.c.3.E.]

3.5.3. Except for the electronic submittal of the annual compliance certification and semi-annual monitoring reports to the DAQ and USEPA as required in 3.5.5 and 3.5.6 below, all notices, requests, demands, submissions and other communications required or permitted to be made to the Secretary of DEP and/or USEPA shall be made in writing and shall be deemed to have been duly given when delivered by hand, or mailed first class or by private carrier with postage prepaid to the address(es), or submitted in electronic format by e-mail as set forth below or to such other person or address as the Secretary of the Department of Environmental Protection may designate:

DAQ:
Director
WVDEP
Division of Air Quality
601 57th Street SE
Charleston, WV 25304

If to the US EPA:
Associate Director
Section Chief
U. S. Environmental Protection Agency,
Region III
Enforcement and Compliance Assurance Division
Air Section (3ED21)
1650 Arch Street
Philadelphia, PA 19103-2029

3.5.4. **Certified emissions statement.** The permittee shall submit a certified emissions statement and pay fees on an annual basis in accordance with the submittal requirements of the Division of Air Quality.
[45CSR§30-8.]

3.5.5. **Compliance certification.** The permittee shall certify compliance with the conditions of this permit on the forms provided by the DAQ. In addition to the annual compliance certification, the permittee may be required to submit certifications more frequently under an applicable requirement of this permit. The annual certification shall be submitted to the DAQ and USEPA on or before March 15 of each year, and shall certify compliance for the period ending December 31. The permittee shall maintain a copy of the certification on site for five (5) years from submittal of the certification. The annual certification shall be submitted in electronic format by e-mail to the following addresses**:**

Are you in compliance with all facility-wide applicable requirements? ☒ Yes ☐ No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

DAQ:
DEPAirQualityReports@wv.gov

US EPA:
R3_APD_Permits@epa.gov

[45CSR§30-5.3.e.]

3.5.6. Semi-annual monitoring reports. The permittee shall submit reports of any required monitoring on or before September 15 for the reporting period January 1 to June 30 and on or before March 15 for the reporting period July 1 to December 31. All instances of deviation from permit requirements must be clearly identified in such reports. All required reports must be certified by a responsible official consistent with 45CSR§30-4.4. The semi-annual monitoring reports shall be submitted in electronic format by e-mail to the following address:

DAQ:
DEPAirQualityReports@wv.gov

[45CSR§30-5.1.c.3.A.]

3.5.7 **Emergencies.** For reporting emergency situations, refer to Section 2.17 of this permit.

3.5.8. **Deviations.**

a. In addition to monitoring reports required by this permit, the permittee shall promptly submit supplemental reports and notices in accordance with the following:
    1. Any deviation resulting from an emergency or upset condition, as defined in 45CSR§30-5.7., shall be reported by telephone or telefax within one (1) working day of the date on which the permittee becomes aware of the deviation, if the permittee desires to assert the affirmative defense in accordance with 45CSR§30-5.7. A written report of such deviation, which shall include the probable cause of such deviations, and any corrective actions or preventative measures taken, shall be submitted and certified by a responsible official within ten (10) days of the deviation.
    2. Any deviation that poses an imminent and substantial danger to public health, safety, or the environment shall be reported to the Secretary immediately by telephone or telefax. A written report of such deviation, which shall include the probable cause of such deviation, and any corrective actions or preventative measures taken, shall be submitted by the responsible official within ten (10) days of the deviation.
    3. Deviations for which more frequent reporting is required under this permit shall be reported on the more frequent basis.
    4. All reports of deviations shall identify the probable cause of the deviation and any corrective actions or preventative measures taken. **[45CSR§30-5.1.c.3.C.]**

b. The permittee shall, in the reporting of deviations from permit requirements, including those attributable to upset conditions as defined in this permit, report the probable cause of such deviations and any corrective actions or preventive measures taken in accordance with any rules of the Secretary.

[45CSR§30-5.1.c.3.B.]

Are you in compliance with all facility-wide applicable requirements? ☒ **Yes** ☐ **No**

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F.**

For all facility-wide applicable requirements listed above, provide monitoring/testing/recordkeeping/ reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number and/or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

3.5.9. **New applicable requirements.** If any applicable requirement is promulgated during the term of this permit, the permittee will meet such requirements on a timely basis, or in accordance with a more detailed schedule if required by the applicable requirement.
[45CSR§30-4.3.h.1.B.]

3.5.10. **Reports of excess emissions.** Except as provided in 3.5.11, the owner or operator of any facility containing sources subject to 45CSR§21-5. shall, for each occurrence of excess emissions expected to last more than 7 days, within 1 business day of becoming aware of such occurrence, supply the Director by letter with the following information:

a. The name and location of the facility;
b. The subject sources that caused the excess emissions;
c. The time and date of first observation of the excess emissions; and
d. The cause and expected duration of the excess emissions.
e. For sources subject to numerical emission limitations, the estimated rate of emissions (expressed in the units of the applicable emission limitation) and the operating data and calculations used in determining the magnitude of the excess emissions; and
f. The proposed corrective actions and schedule to correct the conditions causing the excess emissions.

[45CSR§21-5.2; CO-R21-97-41, III.3 (State-Enforceable only)]

3.5.11**. Variance.** If the provisions of 45CSR21 cannot be satisfied due to repairs made as the result of routine maintenance or in response to the unavoidable malfunction of equipment, the Director may permit the owner or operator of a source subject to 45CSR21 to continue to operate said source for periods not to exceed 10 days upon specific application to the Director. Such application shall be made prior to the making of repairs and, in the case of equipment malfunction, within 24 hours of the equipment malfunction. Where repairs will take in excess of 10 days to complete, additional time periods may be granted by the Director. In cases of major equipment failure, additional time periods may be granted by the Director provided a corrective program has been submitted by the owner or operator and approved by the Director. During such time periods, the owner or operator shall take all reasonable and practicable steps to minimize VOC emissions.
[45CSR§21-9.3; CO-R21-97-41, III.3 (State-Enforceable only)]

3.6. Compliance Plan

3.6.1. None.

3.7. Permit Shield

3.7.1. The permittee is hereby granted a permit shield in accordance with 45CSR§30-5.6. The permit shield applies provided the permittee operates in accordance with the information contained within this permit.

3.7.2. The following requirements specifically identified are not applicable to the source based on the determinations set forth below. The permit shield shall apply to the following requirements provided the conditions of the determinations are met.
None.

Are you in compliance with all facility-wide applicable requirements? 1 Yes 0 No

If no, complete the **Schedule of Compliance Form as ATTACHMENT F.**

21. Active Permits/Consent Orders		
Permit or Consent Order Number	Date of Issuance MM/DD/YYYY	List any Permit Determinations that Affect the Permit *(if any)*
CO-R21-97-41 (Facility wide)	October 20, 1997	Note: June 14, 2006 letter from J. L. Blatt
R13-1127 (Glycol Recovery Plant)	June 26, 1989	
R13-1215 (Glycol Recovery Plant)	April 24, 1990	
CO-R27-99-14-A(92) (Facility wide)	March 31, 1999	

22. Inactive Permits/Obsolete Permit Conditions		
Permit Number	Date of Issuance	Permit Condition Number

Section 3: Facility-Wide Emissions

23. Facility-Wide Emissions Summary [Tons per Year]	
Criteria Pollutants	Potential Emissions
Carbon Monoxide (CO)	1.7
Nitrogen Oxides (NO_X)	38
Lead (Pb)	N/A
Particulate Matter ($PM_{2.5}$)[1]	6.3
Particulate Matter (PM_{10})[1]	6.3
Total Particulate Matter (TSP)	6.3
Sulfur Dioxide (SO_2)	1.2
Volatile Organic Compounds (VOC)	59
Hazardous Air Pollutants[2]	Potential Emissions
Acetaldehyde	0.1
Diantimony Trioxide	0.01
Diethyl Ether	0.01
Ethylene Glycol	32
Ethylene Oxide	0.6
Regulated Pollutants other than Criteria and HAP	Potential Emissions

[1]$PM_{2.5}$ and PM_{10} are components of TSP.
[2]For HAPs that are also considered PM or VOCs, emissions should be included in both the HAPs section and the Criteria Pollutants section.

Section 4: Insignificant Activities

24. Insignificant Activities (Check all that apply)		
☑	1.	Air compressors and pneumatically operated equipment, including hand tools.
☐	2.	Air contaminant detectors or recorders, combustion controllers or shutoffs.
☑	3.	Any consumer product used in the same manner as in normal consumer use, provided the use results in a duration and frequency of exposure which are not greater than those experienced by consumer, and which may include, but not be limited to, personal use items; janitorial cleaning supplies, office supplies and supplies to maintain copying equipment.
☑	4.	Bathroom/toilet vent emissions.
☐	5.	Batteries and battery charging stations, except at battery manufacturing plants.
☑	6.	Bench-scale laboratory equipment used for physical or chemical analysis, but not lab fume hoods or vents. Many lab fume hoods or vents might qualify for treatment as insignificant (depending on the applicable SIP) or be grouped together for purposes of description.
☐	7.	Blacksmith forges.
☐	8.	Boiler water treatment operations, not including cooling towers.
☑	9.	Brazing, soldering or welding equipment used as an auxiliary to the principal equipment at the source.
☐	10.	CO_2 lasers, used only on metals and other materials which do not emit HAP in the process.
☑	11.	Combustion emissions from propulsion of mobile sources, except for vessel emissions from Outer Continental Shelf sources.
☑	12.	Combustion units designed and used exclusively for comfort heating that use liquid petroleum gas or natural gas as fuel.
☑	13.	Comfort air conditioning or ventilation systems not used to remove air contaminants generated by or released from specific units of equipment.
☑	14.	Demineralized water tanks and demineralizer vents.
☐	15.	Drop hammers or hydraulic presses for forging or metalworking.
☐	16.	Electric or steam-heated drying ovens and autoclaves, but not the emissions from the articles or substances being processed in the ovens or autoclaves or the boilers delivering the steam.
☐	17.	Emergency (backup) electrical generators at residential locations.
☐	18.	Emergency road flares.
☐	19.	Emission units which do not have any applicable requirements and which emit criteria pollutants (CO, NO_x, SO_2, VOC and PM) into the atmosphere at a rate of less than 1 pound per hour and less than 10,000 pounds per year aggregate total for each criteria pollutant from all emission units. Please specify all emission units for which this exemption applies along with the quantity of criteria pollutants emitted on an hourly and annual basis:

24. Insignificant Activities (Check all that apply)		
☐	20.	Emission units which do not have any applicable requirements and which emit hazardous air pollutants into the atmosphere at a rate of less than 0.1 pounds per hour and less than 1,000 pounds per year aggregate total for all HAPs from all emission sources. This limitation cannot be used for any source which emits dioxin/furans nor for toxic air pollutants as per 45CSR27. Please specify all emission units for which this exemption applies along with the quantity of hazardous air pollutants emitted on an hourly and annual basis:
☐	21.	Environmental chambers not using hazardous air pollutant (HAP) gases.
☐	22.	Equipment on the premises of industrial and manufacturing operations used solely for the purpose of preparing food for human consumption.
☐	23.	Equipment used exclusively to slaughter animals, but not including other equipment at slaughterhouses, such as rendering cookers, boilers, heating plants, incinerators, and electrical power generating equipment.
☑	24.	Equipment used for quality control/assurance or inspection purposes, including sampling equipment used to withdraw materials for analysis.
☐	25.	Equipment used for surface coating, painting, dipping or spray operations, except those that will emit VOC or HAP.
☐	26.	Fire suppression systems.
☐	27.	Firefighting equipment and the equipment used to train firefighters.
☐	28.	Flares used solely to indicate danger to the public.
☑	29.	Fugitive emission related to movement of passenger vehicle provided the emissions are not counted for applicability purposes and any required fugitive dust control plan or its equivalent is submitted.
☐	30.	Hand-held applicator equipment for hot melt adhesives with no VOC in the adhesive formulation.
☑	31.	Hand-held equipment for buffing, polishing, cutting, drilling, sawing, grinding, turning or machining wood, metal or plastic.
☐	32.	Humidity chambers.
☐	33.	Hydraulic and hydrostatic testing equipment.
☐	34.	Indoor or outdoor kerosene heaters.
☐	35.	Internal combustion engines used for landscaping purposes.
☐	36.	Laser trimmers using dust collection to prevent fugitive emissions.
☐	37.	Laundry activities, except for dry-cleaning and steam boilers.
☑	38.	Natural gas pressure regulator vents, excluding venting at oil and gas production facilities.
☐	39.	Oxygen scavenging (de-aeration) of water.
☐	40.	Ozone generators.

24. Insignificant Activities (Check all that apply)		
☑	41.	Plant maintenance and upkeep activities (e.g., grounds-keeping, general repairs, cleaning, painting, welding, plumbing, re-tarring roofs, installing insulation, and paving parking lots) provided these activities are not conducted as part of a manufacturing process, are not related to the source's primary business activity, and not otherwise triggering a permit modification. (Cleaning and painting activities qualify if they are not subject to VOC or HAP control requirements. Asphalt batch plant owners/operators must still get a permit if otherwise requested.)
☑	42.	Portable electrical generators that can be moved by hand from one location to another. "Moved by Hand" means that it can be moved without the assistance of any motorized or non-motorized vehicle, conveyance, or device.
☑	43.	Process water filtration systems and demineralizers.
☑	44.	Repair or maintenance shop activities not related to the source's primary business activity, not including emissions from surface coating or de-greasing (solvent metal cleaning) activities, and not otherwise triggering a permit modification.
☐	45.	Repairs or maintenance where no structural repairs are made and where no new air pollutant emitting facilities are installed or modified.
☑	46.	Routing calibration and maintenance of laboratory equipment or other analytical instruments.
☐	47.	Salt baths using nonvolatile salts that do not result in emissions of any regulated air pollutants. Shock chambers.
☐	48.	Shock chambers.
☐	49.	Solar simulators.
☑	50.	Space heaters operating by direct heat transfer.
☑	51.	Steam cleaning operations.
☑	52.	Steam leaks.
☐	53.	Steam sterilizers.
☑	54.	Steam vents and safety relief valves.
☐	55.	Storage tanks, reservoirs, and pumping and handling equipment of any size containing soaps, vegetable oil, grease, animal fat, and nonvolatile aqueous salt solutions, provided appropriate lids and covers are utilized.
☑	56.	Storage tanks, vessels, and containers holding or storing liquid substances that will not emit any VOC or HAP. Exemptions for storage tanks containing petroleum liquids or other volatile organic liquids should be based on size limits such as storage tank capacity and vapor pressure of liquids stored and are not appropriate for this list.
☑	57.	Such other sources or activities as the Director may determine.
☐	58.	Tobacco smoking rooms and areas.
☑	59.	Vents from continuous emissions monitors and other analyzers.

Section 5: Emission Units, Control Devices, and Emission Points

25. Equipment Table

Fill out the **Title V Equipment Table** and provide it as **ATTACHMENT D**.

26. Emission Units

For each emission unit listed in the **Title V Equipment Table**, fill out and provide an **Emission Unit Form** as **ATTACHMENT E**.

For each emission unit not in compliance with an applicable requirement, fill out a **Schedule of Compliance Form** as **ATTACHMENT F**.

27. Control Devices

For each control device listed in the **Title V Equipment Table**, fill out and provide an **Air Pollution Control Device Form** as **ATTACHMENT G**.

For any control device that is required on an emission unit in order to meet a standard or limitation for which the potential pre-control device emissions of an applicable regulated air pollutant is greater than or equal to the Title V Major Source Threshold Level, refer to the **Compliance Assurance Monitoring (CAM) Form(s)** for CAM applicability. Fill out and provide these forms, if applicable, for each Pollutant Specific Emission Unit (PSEU) as **ATTACHMENT H**.

Section 6: Certification of Information

28. Certification of Truth, Accuracy and Completeness and Certification of Compliance

*Note: This Certification must be signed by a responsible official. The **original**, signed in **blue ink**, must be submitted with the application. Applications without an **original** signed certification will be considered as incomplete.*

a. Certification of Truth, Accuracy and Completeness

I certify that I am a responsible official (as defined at 45CSR§30-2.38) and am accordingly authorized to make this submission on behalf of the owners or operators of the source described in this document and its attachments. I certify under penalty of law that I have personally examined and am familiar with the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine and/or imprisonment.

b. Compliance Certification

Except for requirements identified in the Title V Application for which compliance is not achieved, I, the undersigned hereby certify that, based on information and belief formed after reasonable inquiry, all air contaminant sources identified in this application are in compliance with all applicable requirements.

Responsible official (type or print)

Name: Richard Geib	Title: President and CEO

Responsible official's signature:

Signature: _____ Signature Date: July 21, 2021

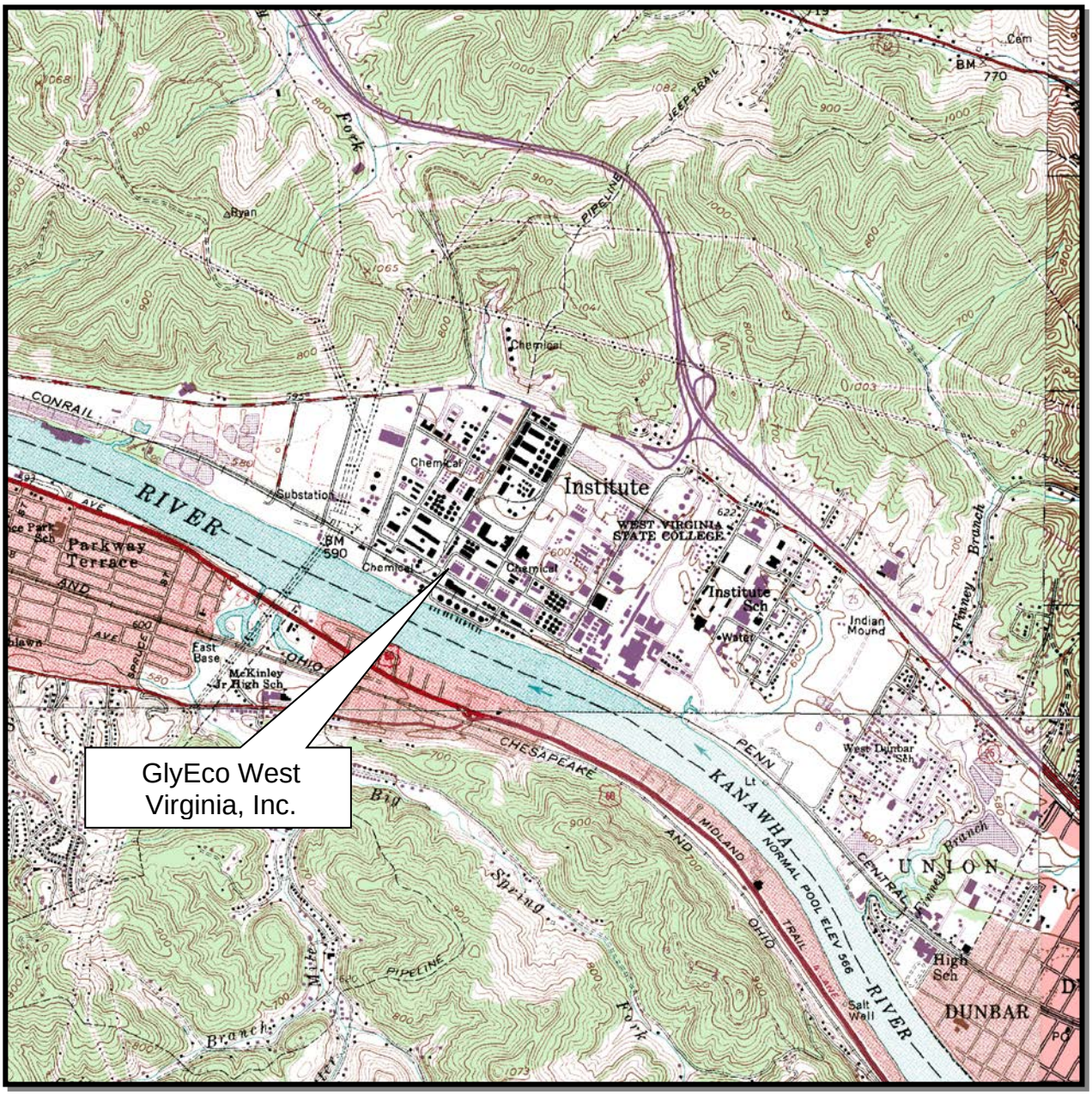
(Must be signed and dated in blue ink)

Note: Please check all applicable attachments included with this permit application:

☑	ATTACHMENT A: Area Map
☑	ATTACHMENT B: Plot Plan(s)
☑	ATTACHMENT C: Process Flow Diagram(s)
☑	ATTACHMENT D: Equipment Table
☑	ATTACHMENT E: Emission Unit Form(s)
☐	ATTACHMENT F: Schedule of Compliance Form(s)
☑	ATTACHMENT G: Air Pollution Control Device Form(s)
☐	ATTACHMENT H: Compliance Assurance Monitoring (CAM) Form(s)

All of the required forms and additional information can be found and downloaded from, the DEP website at www.dep.wv.gov/daq, requested by phone (304) 926-0475, and/or obtained through the mail.

Attachment A



Attachment A – Location Map

USGS 7.5 Minute Series
Topographic Map

St. Albans, WV, Quadrangle

Henthorn Environmental Services LLC

Attachment B

GATE 46B

K103

SUB.

BL-8279
SUBD1&D2

BL-8068

BL-8757

adjacent properties

adjacent properties

℄ ROADWAY S.1+37.583

TRUCK PAD

FMC ROAD

FMC ROAD

T1602

T1601

T1618

T1615

T1619

T1616

T1617

GLYCOL
T1602, T1601
T1618, T1616
T1615, T1619
T1617

0' 10' 40' 80' 120' 160'
SCALE-FEET

0 2 10 20 30 40 50
SCALE-METERS

1	EVERGREEN UPDATE CREATED NEW DRAWING.	01 20 11	P A C	

DRAWN BY	CHK'D BY	DATE	SCALE
PAC		12-07-10	1"= 40'

DOW CHEMICAL

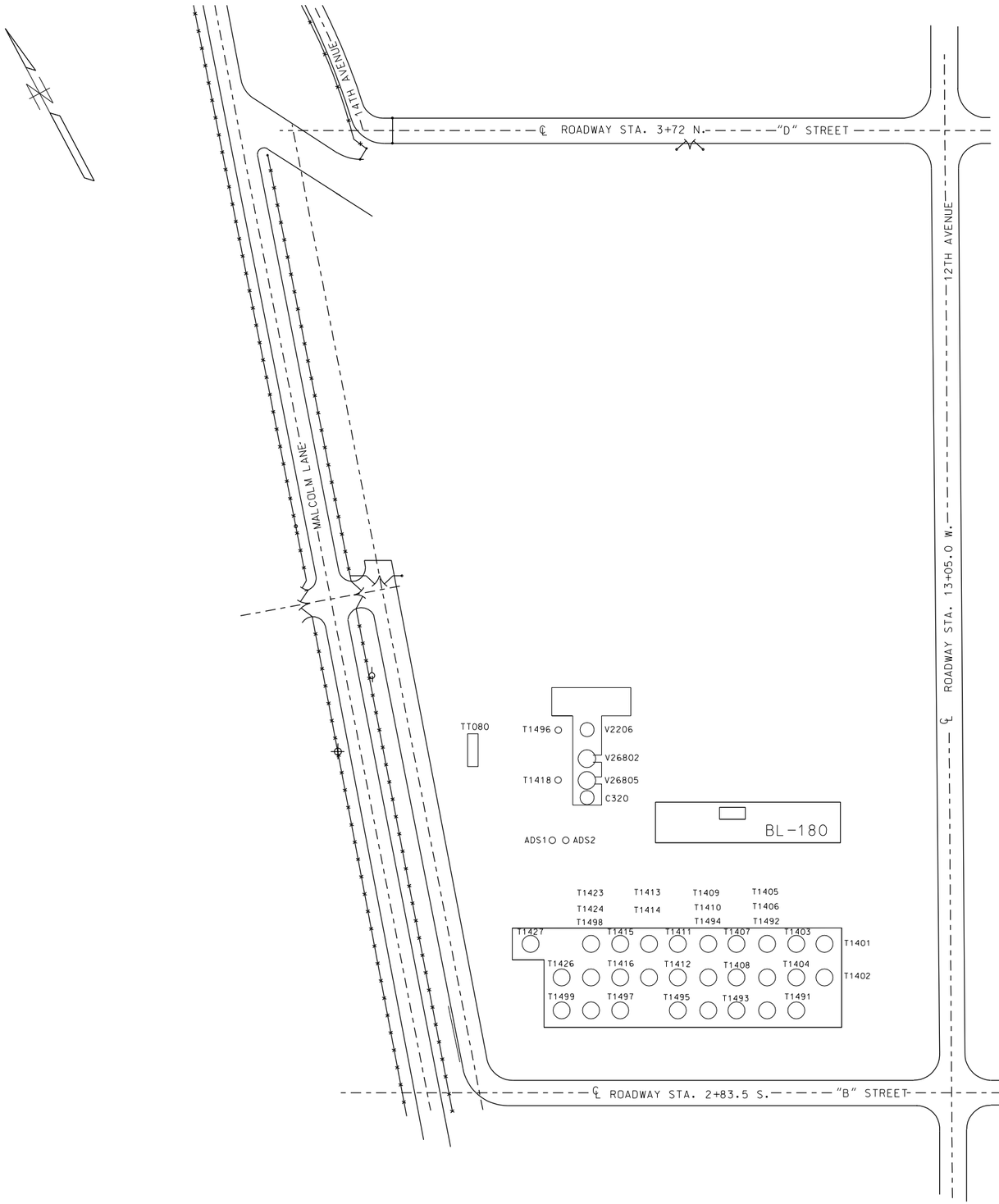
JOB NUMBER	UNIT SYMBOL	ZONE	AREA
	CATALYST	1	

EO CATALYST UNIT/GLYCOL RECOVERY
PLOT PLAN

AREAS: A

INDEX NUMBER			DWG. NO.	REV
LOCATION	SITE	SUBJECT		
507	GS-1	2.51	823748-01	1

RP-4.BDR 04/23/90



0'10' 40' 80' 120' 160'

SCALE-FEET

0 2 10 20 30 40 50

SCALE-METERS

1	EVERGREEN UPDATE CREATED NEW DRAWING.	12 13 10	P A C		

DRAWN BY	CHK'D BY	DATE	SCALE
PAC		12-13-10	1"=40'

DOW CHEMICAL

JOB NUMBER	UNIT SYMBOL	ZONE	AREA
	GLYCOL	10	

GLYCOL UNIT

PLOT PLAN

AREAS: A&B

INDEX NUMBER			DWG. NO.	REV
LOCATION	SITE	SUBJECT		
507	GS-10	2.51	823748-10	1

RP-4.BDR 04/23/90

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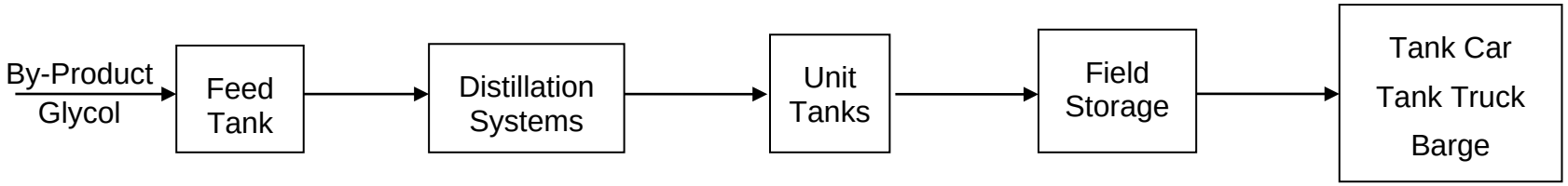
Attachment C



Attachment C

GlyEco West Virginia, Inc.
Process Flow Diagram

Henthorn Environmental Services LLC

Attachment D

ATTACHMENT D - Title V Equipment Table

(includes all emission units at the facility except those designated as insignificant activities in Section 4, Item 24 of the General Forms)

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity (gallons unless otherwise specified)	Year Installed/ Modified
080A		V26805	Vessel V-26805 - Fore Column 26805 and Jets	N/A	Jul-94
080A		V26802	Vessel 26802 - Refining Column 26802 and Jets	N/A	Mar-92
080B		V2206	Vessel 2206 - Evaporator	N/A	May-60
085EE		C320	HON Column	N/A	Aug-99
085FF		ADS1	Vessel ADS1 - Adsorber #1	N/A	Oct-93
085GG		ADS2	Vessel ADS2 - Adsorber #2	N/A	Oct-93
~~085Q~~	~~———~~	~~T1005~~	~~Tank 1005~~	~~1,450,000~~	~~Mar-42~~
~~085R~~	~~———~~	~~T1010~~	~~Tank 1010~~	~~1,450,000~~	~~Jun-42~~
085EE		T1401	Tank 1401	10,000	Feb-48
085EE		T1402	Tank 1402	10,000	May-48
085EE		T1403	Tank 1403	10,000	Feb-48
085EE		T1404	Tank 1404	10,000	Feb-48
085EE		T1405	Tank 1405	10,000	Feb-48
085EE		T1406	Tank 1406	10,000	Feb-48
085EE		T1407	Tank 1407	10,000	Feb.-48
085EE		T1408	Tank 1408	10,000	Feb-48
085AA		T1409	Tank 1409	10,000	Jun-42
085AA		T1410	Tank 1410	10,000	Jun.-42
085L		T1411	Tank 1411	10,000	Oct-53
085L		T1412	Tank 1412	10,000	Jun.-42
085M		T1413	Tank 1413	10,000	Jun-42
085N		T1414	Tank 1414	10,000	Jun-42
085H		T1415	Tank 1415	10,000	Jul-51
085H		T1416	Tank 1416	10,000	Jun.-42
085W		T1417	Tank 1417	6,000	Aug-42
085U combines to 085W		T1418	Tank 1418	10,000	Mar-66

Emission Point ID[1]	Control Device[1]	Emission Unit ID[1]	Emission Unit Description	Design Capacity (gallons unless otherwise specified)	Year Installed/ Modified
085F		T1423	Tank 1423	10,000	Jun-42
085I		T1424	Tank 1424	10,000	Dec-47
085T		T1426	Tank 1426	10,000	May-44
085K		T1427	Tank 1427	10,000	Jun-60
085E		T1428	Tank 1428	1,000	Aug-59
085EE		T1491	Tank 1491	10,000	Apr-66
085EE		T1492	Tank 1492	30,000	Mar-64
085EE		T1493	Tank 1493	30,000	Mar-64
085AA		T1494	Tank 1494	10,000	Jan-56
085BB		T1495	Tank 1495	10,000	Jan-56
085V combines with 085W		T1496	Tank 1496	10,000	Nov-55
085EE		T1497	Tank 1497	10,000	Nov-55
085CC		T1498	Tank 1498	10,000	Jan-56
085DD		T1499	Tank 1499	10,000	Jan-56
085A		T1601	Tank 1601	2,400,000	Jun-43
085BB		T1602	Tank 1602	2,400,000	Jun-43
085C		T1615	Tank 1615	500,000	Sep-59
085D		T1616	Tank 1616	500,000	May-60
085X		T1617	Tank 1617	500,000	Oct-63
085Y		T1618	Tank 1618	280,000	Sep-59
085S		T1619	Tank 1619	280,000	Sep-59
080TT		TT080	Tank Truck Residue Loading	not applicable	not applicable
LB1		1BL	Barge Loading operated by Logistics Group	not applicable	not applicable

[1]For 45CSR13 permitted sources, the numbering system used for the emission points, control devices, and emission units should be consistent with the numbering system used in the 45CSR13 permit. For grandfathered sources, the numbering system should be consistent with registrations or emissions inventory previously submitted to DAQ. For emission points, control devices, and emissions units which have not been previously labeled, use the following 45CSR13 numbering system: 1S, 2S, 3S,... or other appropriate description for emission units; 1C, 2C, 3C,... or other appropriate designation for control devices; 1E, 2E, 3E, ... or other appropriate designation for emission points.

*Capacity estimated from normal operating rate plus factor to cover operating variability.

Attachment E

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Distillation System

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
V26805 V26802 V2206 C320	Vessel V26805 – Fore Column and Jets Vessel V26802 – Refining Column and Jets Vessel 2206 – Evaporator HON Column	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
See Attachment D	See Attachment D	MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes __X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

__X__ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? __X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Separation Devices

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
ADS1 ADS2	Vessel ADS1 - Adsorber #1 Vessel ADS2 - Adsorber #2	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
October 1993	October 1993	MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes __X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

_X_ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Storage Vessels

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
T1401 – T1418 T1423 – T1424 T1426 – T1428 T1491 – T1499	Tanks 1401 through 1418 Tanks 1423 and 1424 Tanks 1426 through 1428 Tanks 1491 through 1499	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Storage/processing of VOC/HAP

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
See Attachment D	See Attachment D	MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X__ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Ethylene Glycol		
Methanol		
Diethylene Glycol		
2-methyl-1,3-dioxolane		
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

_X_ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Storage Vessels – Field Storage

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
T1601 T1617 T1602 T1618 T1615 T1619 T1616	Tanks 1601 - 1619	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Raw material or product storage tanks

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
See Attachment D	See Attachment D	MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):
See Attachment D

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
N/A	N/A	24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes _X__ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

____ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? _<u>X</u>__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Tank Truck Loading Operations

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
TT080	Tank Truck Residue Loading	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Manufacturer:	**Model number:**	**Serial number:**
Construction date: See Attachment D	**Installation date:** See Attachment D	**Modification date(s):** MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:** 24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___ Yes _X_ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Ethylene Glycol	0.11	
Diethylene Glycol	$1.0 * 10^{-4}$	
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or <u>construction permit</u> with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

_X_ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? _X__Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

ATTACHMENT E - Emission Unit Form

Emission Unit Description: Barge Loading Operations

Emission unit ID number:	**Emission unit name:**	**List any control devices associated with this emission unit:**
1BL	Barge Loading operated by Logistic Group	

Provide a description of the emission unit (type, method of operation, design parameters, etc.):

Manufacturer:	**Model number:**	**Serial number:**

Construction date:	**Installation date:**	**Modification date(s):**
See Attachment D	See Attachment D	MM/DD/YYYY

Design Capacity (examples: furnaces - tons/hr, tanks - gallons):

Maximum Hourly Throughput:	**Maximum Annual Throughput:**	**Maximum Operating Schedule:**
		24 hrs/day, 365 days/yr

Fuel Usage Data **(fill out all applicable fields)**

Does this emission unit combust fuel? ___Yes ___ No	**If yes, is it?** ___ Indirect Fired ___Direct Fired
Maximum design heat input and/or maximum horsepower rating:	**Type and Btu/hr rating of burners:**

List the primary fuel type(s) and if applicable, the secondary fuel type(s). For each fuel type listed, provide the maximum hourly and annual fuel usage for each.

Describe each fuel expected to be used during the term of the permit.

Fuel Type	Max. Sulfur Content	Max. Ash Content	BTU Value

Emissions Data	**See Attachment I**	
Criteria Pollutants	Potential Emissions	
	PPH	TPY
Carbon Monoxide (CO)		
Nitrogen Oxides (NO_X)		
Lead (Pb)		
Particulate Matter ($PM_{2.5}$)		
Particulate Matter (PM_{10})		
Total Particulate Matter (TSP)		
Sulfur Dioxide (SO_2)		
Volatile Organic Compounds (VOC)		
Hazardous Air Pollutants	Potential Emissions	
	PPH	TPY
Regulated Pollutants other than Criteria and HAP	Potential Emissions	
	PPH	TPY

List the method(s) used to calculate the potential emissions (include dates of any stack tests conducted, versions of software used, source and dates of emission factors, etc.).

Applicable Requirements

List all applicable requirements for this emission unit. For each applicable requirement, include the underlying rule/regulation citation and/or construction permit with the condition number. (*Note: Title V permit condition numbers alone are not the underlying applicable requirements*). If an emission limit is calculated based on the type of source and design capacity or if a standard is based on a design parameter, this information should also be included.

See Attachment I

_X_ Permit Shield

For all applicable requirements listed above, provide monitoring/testing/recordkeeping/reporting which shall be used to demonstrate compliance. If the method is based on a permit or rule, include the condition number or citation. (Note: Each requirement listed above must have an associated method of demonstrating compliance. If there is not already a required method in place, then a method must be proposed.)

See Attachment I

Are you in compliance with all applicable requirements for this emission unit? __X_ Yes ___No

If no, complete the **Schedule of Compliance Form** as **ATTACHMENT F**.

Attachment F
Not Applicable

Attachment G
Not Applicable

Attachment H
Not Applicable

Attachment I

Applicable Requirements, Monitoring, Recordkeeping and Reporting for Glycol Recovery Plant from Current Title V Permit

4.0 Glycol Recovery Plant Requirements

4.1 Limitations and Standards

4.1.1 Maximum emission rates from emission point 085EE shall be limited as follows:

Pollutant	lbs/hr
Ethylene Glycol	0.031
Methanol	4.45
Diethylene Glycol	0.0083
2-methyl-1,3-dioxolane	0.088

[45CSR13, R13-1215, A.1]

4.1.2. Maximum emission rates from emission point 080TT shall be limited to the following rates while using ethylene glycol as a diluent:

Pollutant	lbs/hr
Ethylene Glycol	0.11
Diethylene Glycol	1.0×10^{-4}

or to the following rates while using diethylene glycol as a diluent:

Pollutant	lbs/hr
Ethylene Glycol	0.0025
Diethylene Glycol	0.0058

[**45CSR13, R13-1215, A.2]**

4.1.3. Emissions from storage tanks 1494, 1495, 1498, and 1499 venting to the atmosphere from the following emission points shall not exceed:

Emission Point	lbs/hr	lbs/yr
085AA (Tank 1494)		
Methanol	0.88	440.5
2-methyl-1,3, dioxolane	0.03	20.8
085BB (Tank 1495)		
Methanol	0.88	440.5
2-methyl-1,3, dioxolane	0.03	20.8
085CC (Tank 1498)		
Methanol	0.88	440.5
2-methyl-1,3, dioxolane	0.03	20.8
085DD (Tank 1499)		
Methanol	0.88	440.5
2-methyl-1,3, dioxolane	0.03	20.8

[45CSR13, R13-1127, A.1]

4.1.4. **Group 2 Process Vents with a TRE index value greater than 4.0.** The owner or operator of a Group 2

process vent with a TRE index value greater than 4.0 shall maintain a TRE index value greater than 4.0. *(V26805, V26802, V2206)* **[45CSR34; 40 C.F.R. §63.113(e)]**

4.1.5. **Group 2 Storage Vessels.** For each Group 2 storage vessel, the owner or operator shall comply with the recordkeeping requirements in 4.4.3. *(~~Tank 1005, Tank 1010,~~ Tank 1401, Tank 1402, Tank 1403, Tank 1404, Tank 1405, Tank 1406, Tank 1407, Tank 1408, Tank 1409, Tank 1410, Tank 1411, Tank 1412, Tank 1413, Tank 1414, Tank 1415, Tank 1416, Tank 1418, Tank 1423, Tank 1424, Tank 1426, Tank 1427, Tank 1491, Tank 1492, Tank 1493, Tank 1494, Tank 1495, Tank 1496, Tank 1497, Tank 1498, Tank 1499, Tank 1601, Tank 1602, Tank 1615, Tank 1616, Tank 1617, Tank 1618, and Tank 1619)* **[45CSR34; 40 C.F.R. §63.119(a)(3)]**

4.1.6. **Group 2 Transfer Operations.** For each Group 2 transfer rack, the owner or operator shall maintain records as required in 4.4.4. *(080TT)* **[45CSR34; 40 C.F.R. §63.126(c)]**

4.1.7. **Group 2 Process Wastewater Streams.** For wastewater streams that are Group 2 for table 9 compounds, the owner or operator shall comply with the recordkeeping requirements specified in 4.4.5. *(GR-01 – Byproduct Run – Forecolumn/Refining Still Jet Condensate Collection Pot, GR-02 – Regular Run – Forecolumn/Refining Still Jet Condensate Collection Pot, GR-03 – Regular Run – Tails Collected from HON Column when less than 1,000 ppm HAP, GR-04 – Methanol Run – Forecolumn/Refining Still Jet Condensate Collection Pot, GR-05 – Methanol Run – Tails collected from HON Column when less than 1,000 ppm HAP, and GR-07 - Regular Grade Forecolumn Overhead Stream)* **[45CSR34; 40 C.F.R. §63.132(a)(3)]**

4.1.8. **Maintenance Wastewater.** Each owner or operator of a source subject to 40 C.F.R. 63, Subpart F shall comply with the requirements of 4.1.8.1 through 4.1.8.3 for maintenance wastewaters containing those organic HAP's listed in table 9 of 40 C.F.R. 63, Subpart G. **[45CSR34; 40 C.F.R. §63.105(a)]**

4.1.8.1. The owner or operator shall prepare a description of maintenance procedures for management of wastewaters generated from the emptying and purging of equipment in the process during temporary shutdowns for inspections, maintenance, and repair (i.e., a maintenance-turn-around) and during periods which are not shutdowns (i.e., routine maintenance). The descriptions shall: **[45CSR34; 40 C.F.R. §63.105(b)]**

a. Specify the process equipment or maintenance tasks that are anticipated to create wastewater during maintenance activities. **[45CSR34; 40 C.F.R. §63.105(b)(1)]**

b. Specify the procedures that will be followed to properly manage the wastewater and control organic HAP emissions to the atmosphere; and **[45CSR34; 40 C.F.R. §63.105(b)(2)]**

c. Specify the procedures to be followed when clearing materials from process equipment. **[45CSR34; 40 C.F.R. §63.105(b)(3)]**

4.1.8.2. The owner or operator shall modify and update the information required by 4.1.8.1 as needed following each maintenance procedure based on the actions taken and the wastewaters generated in the preceding maintenance procedure. **[45CSR34; 40 C.F.R. §63.105(c)]**

4.1.8.3. The owner or operator shall implement the procedures described in 4.1.8.1 and 4.1.8.2 as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3). **[45CSR34; 40 C.F.R. §63.105(d)]**

4.1.9 Equipment Leaks. The permittee shall comply with all applicable standards of 40 C.F.R. 63, Subpart H – "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks." The pertinent equipment leak standards include: 40 C.F.R. §§63.162 (Standards: General), 63.163 (Standards: Pumps in light liquid service), 63.166 (Standards: Sampling connection systems), 63.167 (Standards: Open-ended valves or lines), 63.168 (Standards: Valves in gas/vapor service and in light liquid service), 63.169 (Standards: Pumps, valves, connectors, and agitators in heavy liquid service; instrumentation systems; and pressure relief devices in liquid service), 63.170 (Standards: Surge control vessels and bottom receivers), 63.171 (Standards: Delay of

repair), and 63.174 (Standards: Connectors in gas/vapor service and in light liquid service). **[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §§63.162, 63.163, 63.166, 63.167, 63.168, 63.169, 63.170, 63.171, and 63.174; 45CSR§27-4.1 (State-Enforceable only); CO-R27-99-14-A(92), III.3 (State-Enforceable only)]**.

4.1.10. The permittee shall maintain a TRE index value greater than 1.0 without use of VOC emission control devices. *(V26805 and V26802)* **[45CSR16; 40 C.F.R. §60.662(c)]**

4.1.11. The permittee shall comply with the following applicable requirements from CO-R21-97-41 for the Glycol Recovery Plant:

4.1.11.1. On or after the effective date of Consent Order CO-R21-97-41 (October 20, 1997), the COMPANY shall, reduce VOC emissions in accordance with the alternate emissions reduction plan (AERP). The permittee shall reduce emissions as set forth in Attachment A of CO-R21-97-41; and shall continue to comply with such emissions reduction requirements and the emission limits set forth in Attachment A as Consent Order CO-R21-97-41 expressly provides. Compliance with the emission limits set forth in Attachment A of Consent Order CO-R21-97-41 shall be demonstrated by test or monitoring data, approved emission factors, material balances, and/or representative calculations in accordance with 45CSR21. The Attachment A limits from Consent Order CO-R21-97-41 for the Glycol Recovery Plant are provided in the Appendix of this permit. **[45CSR§21-40 (State-Enforceable only); CO-R21-97-41, III.1 and Attachment A (State-Enforceable only); June 14, 2006 letter from J. L. Blatt]**

4.1.11.2 At all times, including periods of start-up, shutdown, and malfunction, the COMPANY shall maintain and operate the VOC emitting sources and associated air pollution control devices subject to the provisions of Consent Order CO-R21-97-41 in a manner consistent with good air pollution control practices for minimizing emissions. Compliance with the emission limits set forth in Attachment A of Consent Order CO-R21-97-41 shall be demonstrated at all times unless exception periods are provided for in accordance with this paragraph. The COMPANY shall comply with 3.5.10 and 3.5.11 (45CSR§§21-5.2 and 9.3) with respect to all periods of non-compliance with the emission limitations and emission reduction requests set forth in Attachment A of Consent Order CO-R21-97-41 resulting from unavoidable malfunctions of equipment. In the event that the emission limitation and/or emission reduction requirements for a source listed in Attachment A of CO-R21-97-41 cannot be met during routine start-ups, shutdowns, or routine maintenance activities, the COMPANY shall, within 180 days of the effective date of Consent Order CO-R21-97-41 (October 20, 1997), submit an operation and VOC emissions mitigation plan for such periods. If such plan is submitted, it shall contain the information outlined in Attachment B of CO-R21-97-41 and provided in the Appendix of this permit, and shall become an Appendix to Consent Order CO-R21-97-41. The Director may require reasonable revisions to the COMPANY's plan if he or she finds the routine start-up, shutdown, or maintenance resulting in excess VOC emissions not addressed by the plan occur or that the plan fails to provide for operation in a manner consistent with good air pollution control practices for minimizing emissions. VOC emissions and associated control procedures conforming to the COMPANY's plan submitted under this provision shall not be subject to the variance approval process of 3.5.11 (45CSR§21-9.3) provided that the COMPANY maintains test, monitoring, operating, and maintenance records containing sufficient information and detail to enable the COMPANY and the Director to verify compliance with the plan and associated VOC emissions control requirements. These records shall be maintained on-site for not less than three (3) years and be made available to the Director or his or her authorized representative upon request. The Director also may request submission of copies of such records. [**45CSR§21-40 (State-Enforceable only); CO-R21-97-41, III.3 and Attachment B (State-Enforceable only)]**

4.1.11.3 Unless granted a variance pursuant to 3.5.11, the COMPANY shall operate all emission control equipment for those emission sources listed in Attachment A of Consent Order CO-R21-97-41, at all times when the production unit is in operation or when any VOC emitting activity is occurring. In the event that the control equipment is inoperable, the production unit shall be shut down or the activity

shall be discontinued as expeditiously as possible. **[45CSR§21-40 (State-Enforceable only); CO-R21-97-41, IV.7 (State-Enforceable only)]**

4.1.12 **45CSR§21-37 Requirements for Equipment Leaks.** The permittee shall comply with all applicable requirements of 45CSR§21-37 – "Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment." The pertinent equipment leak standards include Sections 45CSR§§21-37.3 through 37.8. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37. **[45CSR§§21-37.3 through 37.8 and 37.1.c (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

4.1.13 Emissions to the air of ethylene oxide from the Forecolumn (V26805) and the Refining Still (V26802) shall not exceed the following:

Emission Source	Emission Point	Ethylene Oxide Emission Limit after BAT	
		lb/hr	lb/yr
Glycol Forecolumn (V26805)	080A	0.08	400
Refining Still (V26802)	080A	0.08	660

[45CSR§27-3.1 (State-Enforceable only); CO-R27-99-14-A(92), III.2 and Attachment B (State-Enforceable only)]

4.2 Monitoring Requirements

4.2.1 NA

4.3 Testing Requirements

4.3.1 **Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 40 C.F.R. 63, Subpart H – "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks" as specified in 40 C.F.R. §63.180. **[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.180]**

4.3.2 The permittee shall comply with all applicable provisions of 45CSR§21-41 regarding test methods and compliance procedures to demonstrate compliance with 5.1.11, except as otherwise approved by the Director. [**45CSR§21-41; CO-R21-97-41, III.5 (State-Enforceable only)]**

4.3.3. **45CSR§21-37 Testing Requirements for Equipment Leaks.** The permittee shall comply with all applicable test methods and procedures of 45CSR§21-37 – "Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment" as specified in 45CSR§21-37.9. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37. **[45CSR§§21-37.1.c and 37.9 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

4.4 Recordkeeping Requirements

4.4.1. **Group 2 Process Vents with a TRE index value greater than 4.0.** The owner or operator of a Group 2 process vent with a TRE index value greater than 4.0 as specified in 5.1.4, shall maintain records of measurements, engineering assessments, and calculations performed to determine the TRE index value of the vent stream, submitted as part of the Notification of Compliance Status report dated September 19, 1997 or any amendments thereto. Documentation of engineering assessments shall include all data, assumptions, and procedures used for the engineering assessments, as specified in 40 C.F.R. §63.115(d)(1). *(V26805, V26802,*

V2206) **[45CSR34; 40 C.F.R. §63.117(b)]**

4.4.2. **Group 2 Process Vents with a TRE index value greater than 4.0.** Each owner or operator subject to the provisions of 40 C.F.R. 63, Subpart G and who elects to demonstrate compliance with the TRE index value greater than 4.0 under 4.1.4 shall keep up-to-date, readily accessible records of: **[45CSR34; 40 C.F.R. §63.118(c)]**

5.4.2.1. Any process changes as defined in 40 C.F.R. §63.115(e). **[45CSR34; 40 C.F.R. §63.118(c)(1)]**

5.4.2.2. Any recalculation of the TRE index value pursuant to 40 C.F.R. §63.115(e). **[45CSR34; 40 C.F.R. §63.118(c)(2)]**

(V26805, V26802, V2206)

4.4.3. **Group 2 Storage Vessels.** For each Group 2 storage vessel, the permittee shall keep readily accessible records showing the dimensions of the storage vessel and an analysis showing the capacity of the storage vessel. This record shall be kept as long as the storage vessel retains Group 2 status and is in operation. *(~~Tank 1005, Tank 1010,~~ Tank 1401, Tank 1402, Tank 1403, Tank 1404, Tank 1405, Tank 1406, Tank 1407, Tank 1408, Tank 1409, Tank 1410, Tank 1411, Tank 1412, Tank 1413, Tank 1414, Tank 1415, Tank 1416, Tank 1418, Tank 1423, Tank 1424, Tank 1426, Tank 1427, Tank 1491, Tank 1492, Tank 1493, Tank 1494, Tank 1495, Tank 1496, Tank 1497, Tank 1498, Tank 1499, Tank 1601, Tank 1602, Tank 1615, Tank 1616, Tank 1617, Tank 1618, and Tank 1619)* **[45CSR34; 40 C.F.R. §63.123(a)]**

4.4.4. **Group 2 Transfer Operations.** Each owner or operator of a Group 2 transfer rack shall record, update annually, and maintain the information specified in 5.4.4.1 through 5.4.4.3 in a readily accessible location on site: **[45CSR34; 40 C.F.R. §63.130(f)]**

4.4.4.1. An analysis demonstrating the design and actual annual throughput of the transfer rack; **[45CSR34; 40 C.F.R. §63.130(f)(1)]**

4.4.4.2. An analysis documenting the weight-percent organic HAP's in the liquid loaded. Examples of acceptable documentation include but are not limited to analyses of the material and engineering calculations. **[45CSR34; 40 C.F.R. §63.130(f)(2)]**

4.4.4.3. An analysis documenting the annual rack weighted average HAP partial pressure of the transfer rack. **[45CSR34; 40 C.F.R. §63.130(f)(3)]**

a. For Group 2 transfer racks that are limited to transfer of organic HAP's with partial pressures less than 10.3 kilopascals, documentation is required of the organic HAP's (by compound) that are transferred. The rack weighted average partial pressure does not need to be calculated. **[45CSR34; 40 C.F.R. §63.130(f)(3)(i)]**

b. For racks transferring one or more organic HAP's with partial pressures greater than 10.3 kilopascals, as well as one or more organic HAP's with partial pressures less than 10.3 kilopascals, a rack weighted partial pressure shall be documented. The rack weighted average HAP partial pressure shall be weighted by the annual throughput of each chemical transferred. **[45CSR34; 40 C.F.R. §63.130(f)(3)(ii)]**

(080TT)

4.4.5. **Group 2 Process Wastewater Streams.** The owner or operator shall keep in a readily accessible location the records specified in 4.4.5.1 through 4.4.5.4. **[45CSR34; 40 C.F.R. §63.147(b)(8)]**

4.4.5.1. Process unit identification and description of the process unit. **[45CSR34; 40 C.F.R. §63.147(b)(8)(i)]**

4.4.5.2. Stream identification code. **[45CSR34; 40 C.F.R. §63.147(b)(8)(ii)]**

4.4.5.3. For existing sources, concentration of table 9 compound(s) in parts per million, by weight. Include documentation of the methodology used to determine the concentration. **[45CSR34; 40 C.F.R. §63.147(b)(8)(iii)]**

4.4.5.4. Flow rate in liter per minute. **[45CSR34; 40 C.F.R. §63.147(b)(8)(iv)]**

(GR-01 – Byproduct Run – Forecolumn/Refining Still Jet Condensate Collection Pot, GR-02 – Regular Run – Forecolumn/Refining Still Jet Condensate Collection Pot, GR-03 – Regular Run – Tails Collected from HON Column when less than 1,000 ppm HAP, GR-04 – Methanol Run – Forecolumn/Refining Still Jet Condensate Collection Pot, ~~and~~ GR-05 – Methanol Run – Tails collected from HON Column when less than 1,000 ppm HAP, and GR-07 - Regular Grade Forecolumn Overhead Stream)

4.4.6. **Maintenance Wastewater.** The owner or operator shall maintain a record of the information required by 4.1.8.1 and 4.1.8.2 as part of the start-up, shutdown, and malfunction plan required under 40 C.F.R. §63.6(e)(3). **[45CSR34; 40 C.F.R. §63.105(e)]**

4.4.7 **Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 40 C.F.R. 63, Subpart H – "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks" as specified in 40 C.F.R. §63.181. **[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.181]**

4.4.8 To demonstrate compliance with 4.1.10, the permittee shall keep up-to-date, readily accessible records of:

4.4.8.1 Any changes in production capacity, feedstock type, or catalyst type, or of any replacement, removal or addition of recovery equipment or a distillation unit;

4.4.8.2. Any recalculation of the TRE index value performed pursuant to 40 C.F.R. §60.664(f); and

4.4.8.3. The results of any performance test performed pursuant to the methods and procedures required by 40 C.F.R. §60.664(d).

(V26805 and V26802) **[45CSR16; 40 C.F.R. §§60.665(h), (h)(1), (h)(2), and (h)(3)]**

4.4.9. **45CSR§21-37 Recordkeeping Requirements for Equipment Leaks.** The permittee shall comply with all applicable recordkeeping requirements of 45CSR§21-37 – "Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment" as specified in 45CSR§21-37.10, with the exception that all records shall be maintained for a period of five (5) years instead of three (3) years. To the extent that implementation of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37. **[45CSR§§21-37.1.c and 37.10 (State-Enforceable only); 45CSR§30-5.1.c; CO-R21-97-41, III.2 (State-Enforceable only)]**

4.5 Reporting Requirements

4.5.1. The permittee shall submit Periodic Reports as described in 40 C.F.R. §63.152(c), except that semi-annual periodic monitoring reports are due within 60 calendar days following June 30 and December 31, for each calendar year. The reports cover the periods January 1 through June 30 and July 1 through December 31. **[45CSR34; 40 C.F.R. §§63.152(a)(4) and 63.152(c)]**

4.5.2. The permittee shall submit reports of start-up, shutdown, and malfunction required by 40 C.F.R. §63.10(d)(5). The start-up, shutdown and malfunction reports may be submitted on the same schedule as the Periodic Reports required under 4.5.1. **[45CSR34; 40 C.F.R. §§63.152(a)(5) and 63.152(d)(1)]**

4.5.3. **Group 2 Process Vents with a TRE index value greater than 4.0.** Whenever a process change, as defined in 40 C.F.R. §63.115(e), is made that causes a Group 2 process vent to become a Group 1 process vent, the owner or operator shall submit a report within 180 calendar days after the process change as specified in 40 C.F.R. §63.151(j). The report shall include: **[45CSR34; 40 C.F.R. §63.118(g)]**

4.5.3.1. A description of the process change; **[45CSR34; 40 C.F.R. §63.118(g)(1)]**

4.5.3.2. The results of the recalculation of the flow rate, organic HAP concentration, and TRE index value required under 40 C.F.R. §63.115(e) and recorded under 4.4.2; and **[45CSR34; 40 C.F.R. §63.118(g)(2)]**

4.5.3.3. A statement that the owner or operator will comply with the provisions of 40 C.F.R. §63.113 for Group 1 process vents by the dates specified in 40 C.F.R. 63, Subpart F. **[45CSR34; 40 C.F.R. §63.118(g)(3)]**

(V26805, V26802, V2206)

4.5.4. **Group 2 Process Vents with a TRE index value greater than 4.0.** Whenever a process change as defined in 40 C.F.R. §63.115(e), is made that causes a Group 2 process vent with a TRE greater than 4.0 to become a Group 2 process vent with a TRE less than 4.0, the owner or operator shall submit a report within 180 calendar days after the process change. The report may be submitted as part of the next periodic report. The report shall include: **[45CSR34; 40 C.F.R. §63.118(h)]**

4.5.4.1. A description of the process change, **[45CSR34; 40 C.F.R. §63.118(h)(1)]**

4.5.4.2. The results of the recalculation of the TRE index value required under 40 C.F.R. §63.115(e) and recorded under 4.4.2. **[45CSR34; 40 C.F.R. §63.118(h)(2)]**

4.5.4.3. A statement that the owner or operator will comply with the requirements specified in 40 C.F.R. §63.113(d). **[45CSR34; 40 C.F.R. §63.118(h)(3)]**

(V26805, V26802, V2206)

4.5.5. **Group 2 Process Vents with a TRE index value greater than 4.0.** The owner or operator is not required to submit a report of a process change if one the conditions listed in 4.5.5.1 through 4.5.5.4 is met. **[45CSR34; 40 C.F.R. §63.118(k)]**

4.5.5.1. The process change does not meet the definition of a process change in 40 C.F.R. §63.115(e), or **[45CSR34; 40 C.F.R. §63.118(k)(1)]**

4.5.5.2. The vent stream flow rate is recalculated according to 40 C.F.R. §63.115(e) and the recalculated value is less than 0.005 standard cubic meter per minute, or **[45CSR34; 40 C.F.R. §63.118(k)(2)]**

4.5.5.3. The organic HAP concentration of the vent stream is recalculated according to 40 C.F.R. §63.115(e) and the recalculated value is less than 50 parts per million by volume, or **[45CSR34; 40 C.F.R. §63.118(k)(3)]**

4.5.5.4. The TRE index value is recalculated according to 40 C.F.R. §63.115(e) and the recalculated value is greater than 4.0. **[45CSR34; 40 C.F.R. §63.118(k)(4)]**

(V26805, V26802, V2206)

4.5.6. **Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 40 C.F.R. 63, Subpart H – "National Emission Standards for Organic Hazardous Air Pollutants for Equipment Leaks" as specified in 40 C.F.R. §63.182. **[45CSR34; 40 C.F.R. 63, Subpart H; 40 C.F.R. §63.182]**

4.5.7. The permittee shall submit to the Administrator semiannual reports of any recalculation of the TRE index value, as recorded under 4.4.8. *(V26805 and V26802)* **[45CSR16; 40 C.F.R. §§60.665(l) and (l)(7)]**

4.5.8. **45CSR§21-37 Reporting Requirements for Equipment Leaks.** The permittee shall comply with all applicable reporting requirements of 45CSR§21-37 – "Leaks from Synthetic Organic Chemical, Polymer, and Resin Manufacturing Equipment" as specified in 45CSR§§21-37.11 and 5.2. To the extent that implementation

of the requirements of 40 C.F.R. 60, 40 C.F.R. 61, or 40 C.F.R. 63 results in monitoring and repair, consistent with 45CSR§21-37, of all components in VOC service in any synthetic organic chemical, polymer, or resin manufacturing process unit, compliance with these federally enforceable standards will satisfy the requirements of 45CSR§21-37. **[45CSR§§21-37.1.c, 37.11, and 5.2 (State-Enforceable only); CO-R21-97-41, III.2 (State-Enforceable only)]**

4.6 Compliance Plan

4.6.1. None.

APPENDIX – Consent Order CO-R21-97-41
ATTACHMENTS A AND B

ATTACHMENT A

Process Area Description and Identification Number	Name of Process Equipment Vented to Control Device and Equipment Identification Number	Maximum Theoretical Emissions (MTE) of the Source (lbs/hr)	Emission Point Identification Number	Control Device Identification Number	Control Device Description	Efficiency of Control Device	Maximum Allowable Hours of Operation (hrs/yr)	Maximum Allowable VOC Emissions	
								lbs/hr	tons/yr
Glycol Recovery 080	Methanol Distillation	9.10[1]	080A	None	No Device	0	8,760[1]	9.10[1]	6.60[1]

[1] Revised based on June 14, 2006 letter from J. L. Blatt.

ATTACHMENT B

ROUTINE/NORMAL OPERATING & MAINTENANCE SCENARIOS RESULTING IN EXCESS EMISSIONS*

Process Area Description and Identification Number	Emission Point Identification Number	Description of Excess Emission Scenario SU – Start-up SD – Shutdown M – Maintenance (Describe Activity)	Description of Controls and Measures used to Minimize VOC Emissions (During each Scenario)	Duration of Excess Emission Scenario (Hours)	Typical/Maximum Number of Events per Year /	Average/Peak VOC Emissions per Event (Pounds per Hour) /

*Do not include malfunction scenarios